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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/648,586	08/26/2003	Efren M. Lacap	408204	4089
30955	7590	06/23/2005	EXAMINER	
LATHROP & GAGE LC 4845 PEARL EAST CIRCLE SUITE 300 BOULDER, CO 80301			JOHNSON, JONATHAN J	
			ART UNIT	PAPER NUMBER
			1725	

DATE MAILED: 06/23/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 10/648,586	Applicant(s) LACAP ET AL.	
	Examiner Jonathan Johnson	Art Unit 1725	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 4-25-05.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-17 is/are pending in the application.
- 4a) Of the above claim(s) 12-17 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-11 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☒ Claim(s) 1-17 are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date <u>8-26-03</u> . | 6) <input type="checkbox"/> Other: _____ |

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DETAILED ACTION

Election/Restrictions

Applicant's arguments are persuasive. The examiner will merge group 1a and 1b.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.

Claims 1-11 are rejected under 35 U.S.C. 102(a) as being anticipated by Applicant's Admitted Prior Art (AAPA). AAPA teaches forming a socket on a first surface of a microchip, such that the socket has predetermined physical dimensions complementary to those of a microchip connection pad footprint occupied by at least one contact pad area on the microchip (fig. 2, item 29), the socket presenting a conductive base capable of bonding to solder; bonding solder to the conductive base to place a solder bar in the socket and place the microchip in made-ready condition for installation. (fig. 2, item 3a); wherein the microchip contains a silicon wafer and the step of forming the socket comprises depositing an adhesion layer onto the wafer, and depositing under-bump-metallization (UBM) material contacting the adhesion layer to complete formation of the conductive base (figure 2, items 4, 28 and 29); wherein the step of depositing the adhesion layer includes depositing a conductor selected from the group consisting of aluminum, nickel-vanadium, titanium, tungsten and copper (specification, paragraph 7);

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wherein the step of depositing the UMB material includes depositing a conductor selected from at least one of titanium, tungsten, vanadium, tin, copper, aluminum, gold, silver, and lead (specification, paragraph 8); wherein the step of forming the socket includes the predetermined dimensions selected from the group consisting of rectangular, "E," "L," and "U" shapes (figure 2, side profile of item 29); wherein the step of forming the socket includes the physical dimensions selected from the group consisting of ring, square, and circular shapes (figure 2, top view of item 20a); , wherein the step of forming the socket includes the physical dimensions being complimentary to the solder bar having a planar rectilinear configuration (figure 2, side view of 20A); wherein the step of forming the socket includes the physical dimensions being complimentary to the solder bar having a planar curvilinear configuration (figure 2, top view of 20a); wherein the step of forming the socket includes the physical dimensions being complimentary to the solder bar having a planar curvilinear configuration (figure 2, item 3a); wherein the step of forming the socket further comprising a step of forming a passivation layer on substantially all of the first surface, exclusive of an area where the socket is located (figure 2, item 29); wherein the step of forming the passivation layer includes the steps of: applying one or more layers of passivation material to the entire first surface; and removing selected portions of the passivation material covering the area where the socket is to be located (figure 2, item 29); wherein the step of applying one or more layers of passivation material includes applying at least one layer selected from the group consisting of polysilicon, silicon dioxide, and benzocyclobutane (figure 2, item 28).

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Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jonathan Johnson whose telephone number is 571-272-1177. The examiner can normally be reached on M-Th 7:30 AM-5:30 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Tom Dunn can be reached on 571-272-1171. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).


Jonathan Johnson
Primary Examiner
Art Unit 1725